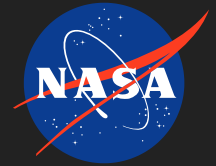


A GIS Software Toolkit for Monitoring Areal Snow Cover and Producing Daily Hydrologic Forecasts using NASA Satellite Imagery, Phase I

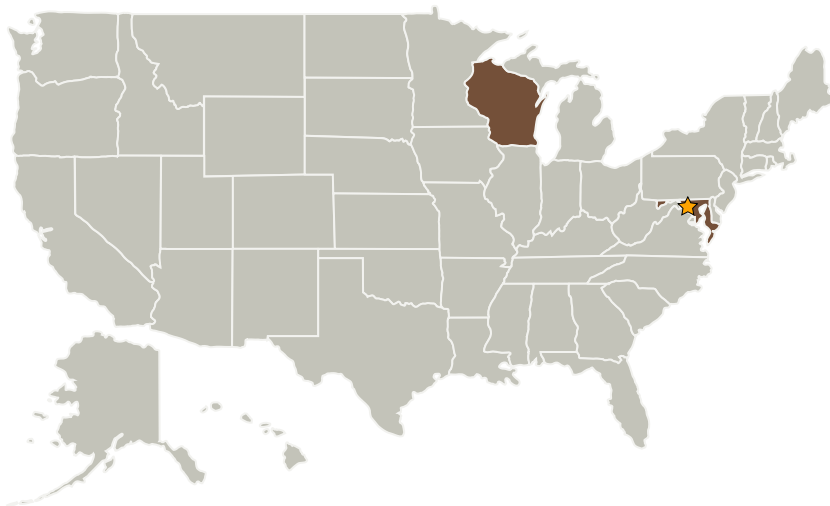
Completed Technology Project (2008 - 2008)



Project Introduction

Aniuk Consulting, LLC, proposes to create a GIS software toolkit for monitoring areal snow cover extent and producing streamflow forecasts. This toolkit will be packaged as multiple extensions for ArcGIS 9.2 and provides users with a means for easily ingesting NASA EOS satellite images (for snow cover analysis), preparing hydrologic model inputs, and visualizing streamflow forecasts. Primary products include: a technique for predicting the presence of snow under clouds in satellite images; a software tool for producing gridded temperature and precipitation forecasts; and a suite of tools for visualizing hydrologic model inputs and results. The toolkit will be an expert system designed for operational users that need to generate numerous streamflow forecasts accurately and in a timely-fashion without having to hassle with the science and physics behind the hydrologic model. This proposal targets the "Data Analyzing and Processing" research initiative announced by the Goddard Space Flight Center by exploiting spatial tools in order to increase the utility of scientific research data, models, and visualizations. The beauty of the proposed toolkit is the ability to incorporate hydrologically relevant spatial datasets at the applied, operational level to produce high quality functional products.

Primary U.S. Work Locations and Key Partners



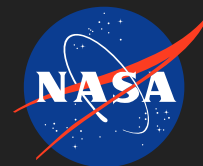
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Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
Aniuk Consulting, LLC	Supporting Organization	Industry	Kenosha, Wisconsin

Primary U.S. Work Locations	
Maryland	Wisconsin

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Brian Harshburger

Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
 - └ TX06.5 Radiation
 - └ TX06.5.4 Space Weather Prediction